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To: Peter Goldman, U.S. DOE
From: Ryan Wiser and Mark Bolinger, Berkeley Lab
Subj: Offshore Wind - Sharing the Benefits with the States
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Peter –

We have done some initial brainstorming on possible incentives to encourage states to support offshore wind development. Most of our ideas were generated “from scratch,” and as such, many of them do not appear all that promising to us. We also reviewed relevant experience with sharing arrangements for offshore oil and gas leasing, as well as *onshore* wind royalties.

SOME CONTEXT: REVIEW OF OIL/GAS/WIND SHARING ARRANGEMENTS TODAY

Offshore oil and gas developers today make payments to the DOI’s MMS in the form of bonuses (the cash amount paid to successfully win a bid for leasing rights), rents (annual fixed payments to preserve the lease while the lease is not yet in production), royalties (production-based payments once production has begun), and other revenues (miscellaneous payments).

If the relevant offshore oil or gas developments are within a 3-6 mile zone from shore, these payments to the MMS are shared with the relevant states. In particular, states receive 27% of royalty, rent, and bonus revenues. In all cases, revenue that is shared with the states goes directly to the state government, not to local governments. If the facility is located outside of the 3-6 mile zone, payments are apparently not shared with the states.

Similar rules apply to onshore leases, though in this case it is not uncommon for the state’s share of the revenue to equal 50% of total revenue. Though we have not explicitly explored this, we assume that this 50% sharing applies to onshore wind power on BLM land.

The obvious issue with respect to offshore wind power is that DOI’s MMS does not yet have explicit authority over the leasing of wind assets on the Outer Continental Shelf (OCS). As such, today there are unlikely to be any payments to either the federal or state governments based on offshore wind development.

OUR IDEAS ON INCENTIVES FOR THE STATES

It is clear that, today, states have little explicit financial incentive to encourage offshore wind development. Offshore wind development will provide environmental, economic development, and diversity benefits to the state, and may help meet state RPS requirements. But, no explicit lease or other payments would be made to state or local jurisdictions.

Below we summarize some initial ideas for how the federal government might provide such financial incentives. Our fundamental conclusion based on our quick brainstorm is simple: sharing of leasing revenues appears to be the most attractive and practical near-term approach. Most of the other options listed below might marginally benefit states, but seem somewhat unlikely on political or practical grounds. Nonetheless, to give you the benefit of the brainstorm, even the somewhat “wacky” ideas are included below.

Option #1: Sharing of Bonuses, Rents, and Royalties with the States

This is the most obvious possibility and, in our view, also the most attractive. As with onshore wind power, and offshore gas and oil, the DOI’s MMS would lease land, receive revenue in the form of bonuses, rents, and royalties, and share those funds with the states.

Issues to consider in establishing such a program include:

- **Distance Limits:** Current federal/state sharing of oil and gas revenues occurs only for facilities within a 3-6 mile distance from shore. Projects located outside of 6 miles would not share revenues with the states. We suspect that this should be relaxed for offshore wind, given likely distances of 5-15 miles from shore. Namely, sharing of bonus, rent, and royalty revenue with the states should occur for projects both within the 3-6 mile zone, and outside of that limited zone. Another issue to consider is how to designate a state as a fund recipient when there are two or more states in some proximity to the project (e.g., it would not be inconceivable for a project to be located 10 miles from one state, and 12 miles from another. Would both states receive a portion of shared revenue, or just the state that is closest to the project?)
- **Payment Recipient:** Current lease payments for onshore wind and offshore oil and gas are shared with *state governments*. But, opposition to offshore wind is often lodged by communities located near the shore who have to endure the visual or other effects of the wind facility. As such, it might be useful to consider the sharing of lease revenue with: (1) local communities (counties or cities) located in closest proximity to the facility, or (2) the local community in which the offshore-onshore electrical cable is located. Sharing of lease revenue between the state and relevant local government might make the most sense.
- **Sharing Percentage:** Onshore oil and gas (and we believe wind power) lease payments are often shared with the states on a 50%/50% basis, though there are many exceptions to this. Offshore oil and gas sharing is at 27% state/63% federal. A decision would need to be made on what percentage of offshore wind lease

payments would be shared with the states. Obviously, the higher the percent shared, the more attractive to the states.

- **Form of Lease Payment:** As discussed earlier, lease payments for offshore oil (and, to some extent, onshore wind) come in the form of cash bonuses, rents, royalties, and other payments. More recently, the MMS has explored payment in the form of the product itself: in some cases, oil and gas royalty payments to the state have come in the form of free oil or gas. Questions regarding the form of lease payments will surely arise for offshore wind, and we do not address the tradeoffs here. But, we do note that payment to the state or local governments could also come in the form of discounted electricity delivery, though we also note the complexity of such a scheme given different state regulatory regimes for such electricity sales.
- **Other Issues:** Also not addressed here, leases can be bid competitively, or can be offered on a first-come basis. Pre-defined tracts of land could be made available, or project proponents can be given the ability to propose their own tracts of land. The level of the bonus/rent/royalty payments can be set in advance (in many different ways), or can be set by a competitive auction. Leasing terms for construction timing, decommissioning, etc. would need to be resolved. Leasing terms could apply only on a prospective basis, or any apply to projects currently in the pipeline (a controversial subject for Cape Wind, and other existing developers). All of these details are outside of the scope of this memo.

Option #2: Use Other Funds to Provide Financial Incentives for Offshore Wind

In lieu of sharing lease payments, the federal government could use other revenue sources to directly provide financial incentives to states off of whose coasts offshore wind power development has occurred. Payments could be made to the *state government* on a per-kWh of offshore wind generation or some other basis, or could be distributed to *local communities* that are most impacted by the offshore development.

Funds for these payments could come from at least three possible sources:

- **Annual Congressional Appropriation:** Similar to today's REPI program, funds could be annually appropriated by Congress. A key disadvantage of this funding source is that the annual appropriation process is uncertain, so states would not be assured of payment each year.
- **National System Benefits Charge:** A national charge on electricity rates could be used to collect funds. It would be politically impractical, of course, to establish such a charge only to support offshore wind power. As such, this option presumably only becomes viable if a national SBC is otherwise likely to occur.
- **Refund of Federal Tax Payments:** To the extent that offshore wind developers and owners pay federal taxes, those tax payments could be refunded to the states. Of course, with the federal PTC and accelerated depreciation, however, the extent of federal tax payments for offshore wind is likely to be limited.

In addition to the disadvantages with each of the funding approaches listed above (which are themselves sizable), it would be hard to escape the charge that this was a federal

“buy-off” of the states. As such, this approach might only be useful to consider if the shared leasing approach (option #1) proved unviable. One specific advantage of this approach, relative to shared leasing, is that this approach does not impose a cost on the wind project developer/owner, as does a leasing arrangement, thereby providing support to both the state *and* the developer to pursue offshore wind.

Option #3: Federal Law to Allow Property Taxes to Apply to Offshore Wind

Projects located outside of state boundaries (beyond 3 miles) are presumably exempt from state and local property taxes. The federal government could enact a law that would specifically allow states to impose property taxes on offshore wind projects that are consistent with taxes applied to land-based wind power projects. States would then have the option, but not the obligation to impose such taxes. A state that wants to specifically encourage offshore wind might in fact choose not to apply property taxes to the project. Of course, a key disadvantage of this approach (as with many of the other approaches listed) is that it would require explicit federal legislation.

Option #4: Direct Support to Key Possible Offshore Wind Opponents

Offshore wind projects are often opposed by specific interest groups, e.g., (1) fisherman, (2) nearby landowners, (3) citizens of the town in which the electrical cable comes ashore, etc. It may be useful to consider approaches to specifically mitigate the concerns of these groups.

- Tax Incentives for Co-Development of Aquaculture in Vicinity of Offshore Wind Projects. To alleviate fishing concerns, one approach might be to offer tax incentives to aquaculture development that occurs near offshore wind projects. While this might benefit only a few aquaculture fishermen, perhaps it would modestly alleviate the concerns of this interest group. Aquaculture has been co-developed with offshore wind projects in Europe to help alleviate the concerns of fisherman.
- Incentives For the Town in Which the Electrical Cable Comes Ashore. We have already identified the possibility of sharing lease payments (Option #1) or using other funds (Option #2) with not only the state, but also with local communities directly impacted by the offshore project. One such community will be one in whose midst the electrical cable will come ashore.

While these options are not “comprehensive” in nature, and again may be considered political “pay-offs” and therefore engender some political risk, they could nonetheless be considered.

Option #5: Supporting Community Wind Power Ownership

In European countries such as Denmark and Germany, a large proportion of wind power development to date – including several offshore wind projects – has been financed through various “community wind ownership” models. Such models allow individuals or businesses – i.e., members of the local community – to purchase equity shares in a project, through which they earn a financial return just like (or alongside) the commercial developer. By giving members of the local community a direct financial stake in the success of a project, Europeans have reduced public opposition to wind farms.

While providing incentives to *state residents* is not exactly the same as providing incentives to *the state*, the former group likely constitutes the bulk of “state” opposition to offshore wind. In this light, the federal government could take several steps to encourage the development of offshore wind projects that are at least partially owned by the community (with “community” potentially including all state residents who are interested):

- Make the PTC “tradable” for offshore wind projects. Few individual investors have sufficient passive tax appetite to take advantage of the PTC. Enabling “community” investors in offshore wind projects to trade or sell the PTC to other entities that can benefit from it would likely facilitate community ownership and development of offshore wind projects.
- One major driver of community-owned wind projects in Europe is that revenue derived from shares in a wind project is often free from income tax (up to a limit). Along these lines, the federal government could pass legislation exempting certain income from offshore wind farms (e.g., for small investors only) from federal income tax.
- “Aggregate net metering” is a concept that allows individuals to apply electricity derived from shares in a centrally located (i.e., not on-site) wind project against their on-site electricity usage. This concept is similar to traditional net metering (e.g., the customer earns the retail rate for any power produced), except the renewable project is jointly owned (by the local community) and is centrally located (rather than on-site). To specifically encourage state (or at least *state resident*) acceptance of offshore wind projects, the federal government might pass national net metering legislation that provides for aggregate net metering of offshore wind projects.

A community-owned wind approach has the advantage of reducing public opposition to offshore wind, and also perhaps enhancing the state’s economy (to the extent that offshore wind is a good income-producing investment). In the United States, however, there has been only limited *onshore* experience with community-owned wind (mostly in Minnesota), and it is not clear to what extent the “community” would embrace such an idea for an offshore project.

Option #6: Give States a More Active and Clear Role in the Permitting Process

One major barrier to offshore wind today is the uncertainty that exists on the roles of various parties in the permitting process. To engender additional state support for offshore wind, a couple of approaches are possible:

- **State Advisory Role in Permitting:** States could be given a more-defined advisory role in the permitting process. While this should not necessarily give states “veto power” over a project, it might be possible to more clearly define roles in a way that helps build some support for offshore wind development in the states.
- **State Role in Defining Appropriate Locations for Offshore Wind:** State governments, in concert with federal agencies, could help define offshore areas in

which wind development should be encouraged. Rather than giving project proponents free latitude to select sites of their choosing, this approach would define development areas up-front, giving states a hand in defining those areas, and therefore limiting subsequent opposition to development. This approach is being pursued in Europe, to some extent.

Option #7: National RPS Options

A federal RPS has been under consideration by the U.S. Congress for some time now. Under a standard national RPS, with credit trading, an offshore wind project would be able to earn some “above-market” revenue through the sales of renewable energy credits (RECs). To provide even further support for offshore wind, a national RPS could provide extra-credit multipliers for offshore wind (e.g., offshore wind projects receive not just one, but two RECs for each MWh of production). This approach has been proposed for solar power, as well as renewable resources on Indian lands, but it could be extended to offshore wind.

There are several disadvantages to this approach. First, it is uncertain and perhaps even unlikely that a national RPS will emerge from the House-Senate Conference Committee on the energy bill. Second, even if it were to emerge, it seems unlikely that stakeholders would support extra-credit multipliers for offshore wind. Third, a national RPS (with or without extra-credit multipliers) provides support to offshore wind developers, but does not provide direct support to the state in which those projects are located (outside of the standard environmental, fuel diversity, and other benefits of increased wind production). Accordingly, a standard RPS is unlikely to ease NIMBYism or local opposition to offshore wind.

One approach that might be considered is the recycling of penalty funds collected through the RPS (under an RPS, penalties or fees typically apply to those load-serving entities that do not meet their requirements). Such penalties could be refunded, at least in part, to state governments that (1) achieve significant growth in installed renewable energy capacity, or (2) less likely, have supported the development of offshore wind projects off of their coasts. Though this approach would provide direct support to states that encourage offshore wind, it also appears unlikely politically or practically.

CONCLUSIONS

This represents the extent of our thoughts on this matter at the moment. As should be clear from the above discussion, sharing of leasing revenues appears to represent the most viable option of those we have considered. That said, we hope that the other options listed above are useful starting points for a broader brainstorming exercise. If you’d like to discuss any of these options, please let us know.